Is there Swissness in Investment Decision Behavior and Investment Competence?*

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ABSTRACT

Based on a large international survey we analyze how German- French- and Italian-speaking Swiss differ in their investment decision behavior and investment competence as compared to their closest neighbors abroad speaking the same language. Although language may be closer to the individual self than the country of residence, we find that there are greater similarities in the decision behavior of Swiss speaking different languages than between Swiss and their linguistically closest neighbors abroad. Swiss in all language regions are also more likely to avoid emotionally motivated investments mistakes. We conclude that there is Swissness in the decision behavior as well as in the emotional investment competence. The latter is associated with regional differences in the relationship to investment advisors.

Keywords: Behavioral Finance, Investment Mistakes, Cultural Finance

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1 Introduction

Economists traditionally assume preferences are given and there is no role for culture. As Fehr & Ho (2011) noted, such views have been questioned by the growing literature showing that preferences can be endogenous and can be shaped by societal and cultural influences (Bowles 1998; Henrich 2000; Eugster et al. 2011; Hoff et al. 2011). In Switzerland the term "Swissness" is used to indicate that consumer products are distinguishable different (and better) than similar products from other countries. While Swissness is established as a successful product brand (Feige et al. 2008), little is known about the question whether there is Swissness in other areas.

In this paper, we analyze whether there is Swissness in the investment decision behavior and investment competence. The latter reflects the ability to avoid investment mistakes that usually occur when people decide emotionally and when they apply heuristics or "rules of thumb" to compensate for the lack of knowledge or experience. Based on a large survey carried out in three linguistically different parts of Switzerland as well as in the neighborhood countries we find that in their decision behavior Swiss are more similar to each other than to their neighbors abroad speaking the same language. Moreover, we find that Swiss in all language regions are more likely to avoid emotionally motivated investment mistakes, while Swissness in the investment knowledge exists only in the German- and French-speaking regions. We conclude that there is Swissness in the investment decision behavior and in the investment competence. The latter is associated with differences in the relationship to investment advisors. Although language might be closer to the individual self than the country of residence, our results suggest that in countries with multiple identities there might be some traits on national level with an impact on the investment decision behavior and investment competence.

Previous research on the existence of Swissness concludes that Swissness represents an overarching sense of collective identity that has to cope with a sense of identity with the lower (linguistic) level entities. With respect to the latter, Longchamp (2002) finds that Swiss living in different language regions differ significantly among each other with respect to their value orientation. Additionally, a survey of the Swiss national television shows that the majority of the Swiss citizens perceive important regional differences in the mentality determined by the different languages (Miauton & Reymond, 1998). The economic consequences of such differences become evident in different attitudes toward government-provided social insurances (Eugster et al. 2011), employment (Brügger et al., 2009) and the valuation of publicly provided goods respectively taxes (Eugster & Parchet, 2013). In terms of collective identity, Longchamp (2002) finds that despite of the value fragmentation Swiss citizens still feel that they "belong" to Switzerland, rather than to their language region or canton (Longchamp 2002, p. 20). Moreover, a recent survey with eligible Swiss voters shows that Swiss are defining themselves primarily as Swiss citizens, rather than by their communities and language regions (Schiendorfer, 2013).

The collective identity of Swiss survives also in an international context. McRae (1983) finds that a clear majority in all three language communities feel "strongly attached" or "very strongly attached" to Switzerland as compared to their linguistically closest neighbors abroad, i.e., the cross-language bonding in Switzerland appear stronger than the cross-border bonding. This supports the proposition of King (1997) that "Swiss have [...] customs, cultural traditions and political institutions that bind them closer to one another than to people of France, Germany or Italy living just across the border and speaking the same language".

In the psychological tradition, the impact of emotions and heuristics is assumed to be universal. However, Nisbett et al. (2001) propose that the underlying processes vary between different entities. Empirically, the question whether the impact of emotions and heuristics is universal or vary between entities finds different answers. Some studies find that emotions such as regret affect individuals in a similar way (Gilovich et al., 2003). Also alternative representations of information seem to affect people in a similar way (Levin et al., 2001; Sell et al., 2002). Other studies suggest that there are significant cultural differences in the way people perceive and use information. These differences are evident in the estimated precision of own predictions (Acker & Duck, 2008; Wright & Phillips, 1980; Yates et al., 1998, 1989), in the tendency to rely on stereotypes in probability judgments (Spina et al., 2010) but also in in the way people respond to different representation of information (Levinson & Peng 2007 and Wang & Fischbeck 2004).

In addition to differences in the emotional and cognitive drivers of decision making, there is evidence that countries differ in the way people deal with financial questions, such as questions on compound interest, inflation, and risk diversification (see Lusardi and Mitchell 2013 for an overview). In the case of Switzerland, Brown & Graf (2013) find that the financial literacy in Switzerland is high and comparable to that in Germany.

While most studies explore cross-national differences, West & Graham (2004) suggest that the language spoken is important for explaining differences in the decision behavior. In particular, Nisbett (2003) provides evidence for the notion that the language learned influences the cognitive habits. He observes that Americans are more object- and fact-oriented than Asians, which allows Asians to be better at seeing the relationships between events. One result of these perceptional differences is that Americans see trends as likely to continue while Asians see trends as signs that they would reverse. This evidence supports the approach of Stulz & Williamson (2003) who use a common language to capture differences between entities. Recently, Chen (2013) analyzed whether the language that people use influences their investment behavior. He finds that individuals speaking a language with obligatory future-time reference (e.g. French and Italian), treat future rewards as more distant and take fewer future-oriented actions such as retirement saving than individuals speaking a language that does not require to attend to the time when speaking (e.g. German).

If the language reflects some deeper differences in the processes of the mind affecting investment decisions or reflect some cultural preoccupations in the way people think, then we should be able to observe significant difference across language regions, even across national borders. Comparing these differences with the differences across countries allows a conclusion on the existence of Swissness as a complement to the regional identities defined by the different languages.

2 Methods

The study is based on an online-questionnaire consisting of three parts. In the first part, we ask the participants to state their age, gender and their permanent residence of living. These data have been used to balance the sample of participants so that the proportion of males and females is approximately equal and the age of participants is between 25 and 70 years.[1] The residence of living has been used to restrict the sample abroad to the neighborhood regions of Switzerland, which is expected to increase the homogeneity between

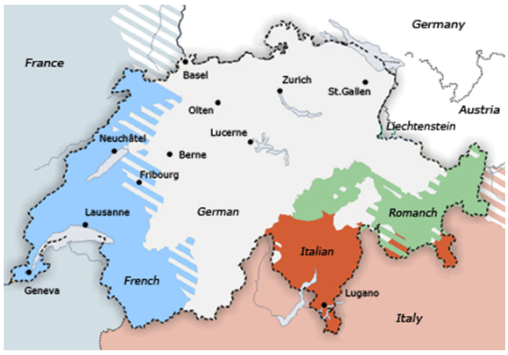
[1] People under 25 are unlikely to have been dealing with investments on the financial market.

Swiss and Non-Swiss. The second part of the survey consists of questions evaluating the investment experience and competence of the participants. The last part of the survey evaluates the socio-economic and the demographic characteristics of the participants.

2.1 Participants

The participants of our study are individuals living permanently in Switzerland and in the closest regions of the border countries Germany, France and Italy (see Figure 1).[2] Switzerland is a federation of 26 cantons that can be divided into four regions according to their official languages: German, French, Italian and Rumantsch. Some cantons are officially bilingual, but there are clearly defined language regions (German in northern, central and eastern Switzerland, French in western Switzerland, Italian in southern Switzerland and Rumantsch in southeastern Switzerland, see Figure 1). In this study, we focus on the main languages German, French and Italian as only a tiny minority of 1% of the Swiss population speaks Rumantsch, a language unique to Switzerland, and everybody speaking it is perfectly able to speak German, too.

Figure 1: Language regions in Switzerland



Source: http://www.qualitative-research.net/index.php/fqs/article/view/13/27

Note that the official languages in Switzerland are used mainly in written communication. In everyday communication, Swiss use dialects (Swiss-German, Swiss-French and Swiss-Italian). While Germans usually have difficulties to understand Swiss-German, the linguistic differences between Swiss-French and French and between Swiss-Italian and Italian are rather negligible. Most Swiss live in monolingual cantons with clear language borders where language contact between the French-, German-, Italian- and Romansh-speakers is limited. Most Swiss people rarely read newspapers or listen to news in a language other than their own. This means that Swiss living in different language regions receive information through media systems following different approaches of news-making (Esser & Umbricht, 2013). This may have implications for the development of different investment attitudes.

We used professional market research agencies to recruit samples of participants in each region.[3] We asked for a balanced sample of participants in terms of age and gender with no restrictions on the

[2] We chose the regions Baden-Wuerttemberg and Bayern in Germany, Lombardia, Piemonte, and Veneto in Italy and Alsace, Franchecomte, and Rhone-Alps in France.

[3] The market research agencies use panels with individuals agreeing to participate in online surveys. The individuals in the online panel have different professional backgrounds and experience in various industries. The target participants receive information on the goal of the study, general information on the questions as well as an estimation of the maximum amount of time required to

participants' professional background. Subsequent comparisons of individual charactristics with potential impact on investment competence reveal that the sample represents well the characteristics of permanent Swiss residents (see section 2.4).

In our analysis, we distinguish six groups of respondents based on their permanent residence of living and the language they speak: Swiss-German (SwissG), Swiss-French (SwissF), Swiss-Italian (SwissI), German (G), French (F) and Italian (I). We call participants with permanent residence of living in Switzerland "Swiss" and participants living outside Switzerland "Non-Swiss" although we cannot exclude the possibility that participants may have multiple citizenships.

2.2 Eliciting Investment Competence

Our questions eliciting the individual investment competence are motivated by the vast research on behavioral and household finance documenting that individual investors make serious investment mistakes. Among various pieces of evidence are findings that households tend to sell winners too early and hold losers too long (Odean, 1998; Shefrin & Statman, 1985), trade too much (Barber and Odean 2000) and hold under-diversified portfolios (Blume & Friend, 1975; Goetzmann & Kumar, 2008; Kelly, 1995). As a result, the average retail investor tends to underperform the market (Barber et al., 2009).

To develop a better understanding on the drivers of these mistakes, behavioral finance studies analyze the decision behavior of individuals in controlled experimental settings. These studies find that individuals' behavior contradicts rational decision-making. Regarding the tendency to sell winners too early and hold losers too long (called also the "disposition effect"), Summers & Duxbury (2012) find that the effect cannot be explained by different preferences over gains and losses but rather by the elation from realizing a gain and the regret from selling at a loss. The authors observe also that these emotions motivate people to increase risk taking after losses in order to break even. Using data of shareholdings and transactions of all investors in the Finnish stock market, Lehenkari (2012) confirm that individual investors hold on their losses because of anticipated regret with realizing losses and reluctance to admit that the initial buying decision was a mistake. We use the following three questions to evaluate the emotional drivers of individual risk taking behavior after gains and losses.

Question (risk taking after losses):

"How do you rate the correctness of the following decision rule "After very large losses one should take more risks to break even" a) always hold b) often holds c) only sometimes holds d) never holds e) I cannot decide"

Question (behavior after losses):

"Suppose you bought a financial asset at CHF/EUR 100. The market value of your investment is now at CHF/EUR 80. What would you do? a) I would buy more, because I can get the asset for a lower price b) I would sell the asset, because I was not successful c) I would not sell the asset, because I would need to realize a loss d) I would reconsider the investment idea."

Question (behavior after gains):

answer the questions. Based on this information participants decide to participate in the survey or not. Compensation is received upon completing the survey.

"Suppose you bought a financial asset at CHF/EUR 100. The market value of your investment is now at CHF/EUR 150. What would you do? a) I would realize the gain, i.e. sell the asset b) I would buy more, because I was successful c) I would reconsider the investment idea."

Previous gains and losses affect risk-taking behavior of professional traders as well. For example, Liu et al. (2010) observe that professional traders take more risks after gains. The strategy to repeat choices that have produced favorable outcomes in the past can be successful if the traders have some information advantage but the authors fail to find evidence for a superior performance. In an experimental setting, Charness & Levin (2005) find that individuals repeat choices that had favorable outcomes in the past even if it contradicts Bayesian reasoning. The following question evaluates the importance of previous gains as well as the importance of current positive trends. We assume that participants without any investment experience do not have any timing ability so that a reliance on a positive trend can lead to a superior performance only by chance.

Question (reasons for continuing investing):

"Suppose you decided to make a certain investment. Which of the following factors are the most important for you to keep the investment? a) That I made a gain with the investment b) That the market value of the investment follows a positive trend at the moment c) That the investment idea is still valid d) I cannot decide because I do not have investment experience."

The tendency to repeat choices that have produced favorable outcomes in the past may affect also the financial planning behavior. People may avoid dealing with financial planning questions until losses occur. However, losses drive emotions of regret that do not foster rational decisions (Summers & Duxbury, 2012). Postponing planning can be suboptimal as well because households may not have enough time to accumulate financial capital that is necessary to meet their financial needs later. The following question evaluates the financial planning attitude of the participants in our sample.

Question (financial planning):

"Which statement about the planning and monitoring of your financial situation describes best your attitude? a) I monitor my financial situation regularly b) I review my financial situation only when losses occur c) I try to avoid dealing with my financial situation because I feel uncertain in financial decisions d) I often postpone the planning of my financial situations because my priorities change very often."

The second investment mistake that we address is that individual investors trade too much, i.e. their trading activity and trading performance are not positively correlated (Barber and Odean 2000). We hypothesize that people engage in active trading because they have a wrong perception of randomness. According to a choice anomaly knows as probability matching, people predict random events in proportion to the probability of their occurrence (see Vulkan (2000) for a review). This strategy is suboptimal, because the probability for accurate predictions is lower than in the case of always predicting the event with the higher probability. In the context of investments, the probability matching motivates excessive trading, i.e. an active trading on a random walk while a buy-and-hold strategy is optimal. The following question evaluates this attitude.

Question (active versus passive investment choice):

"The price of a stock changes randomly. Suppose that you expect that the price of the stock will increase in more than half of the cases. Which strategy would you prefer? a) I buy and hold the stock as long as I do not need the money b) I buy und wait until I made a certain gain, then I sell and buy again when the price falls."

Further, we hypothesize that excessive trading may be driven by a misperception of the drivers of investment success. While Brinson et al. (1986) find that the strategic asset allocation explains more than 90% of the investment success, people may think that stock picking and market timing drive performance. The following question assesses this aspect of investment knowledge.

Question (performance drivers):

"Which of the following factors has the greatest contribution to investment success? a) the long-term split of the wealth among different asset classes b) the short-term over- und underweighting of asset classes c) the product choice within the asset classes."

Additional questions related to investment knowledge address the perceived risk-reward potential of different asset classes. We also test whether our participants are aware that their portfolios are under-diversified as documented empirically (Blume & Friend, 1975; Goetzmann & Kumar, 2008; Kelly, 1995).

Question (past long-term reward):

"Which of the following asset classes had the highest return in the long-run? a) cash b) gold c) bonds d) real estate e) stocks f) alternative investments (commodities, hedge funds, private equity)".

Question (past short-term risk):

"Which of the following asset classes had the highest risk in the short-run? a) cash b) gold c) bonds d) real estate e) stocks f) alternative investments (commodities, hedge funds, private equity)".

Question (portfolio size):

"How many stocks do you need to achieve a good distribution of the risks in your portfolio with stocks? a) 1-5 stocks b) 5-10 stocks c) more than 10 stocks."

The questions were originally given in German. Professional interpreters translated the questions into French and Italian. All participants used the same version of questions. Participants received a fixed payment for their participation in the study or a chance to win a price with a comparable expected value. In a pre-study we found that these differences in the compensation may affect the motivation for participating in the survey, but they had no impact on the way people answered the questions. This can be expected as the compensation was paid upon completing the survey and it did not depend on the answers to the questions.

Table 1 presents the regional distribution of the provided answers to all these questions. We observe that participants in all regions have a clear preference for a certain answer. However, there are considerable regional differences in the distribution of answers. In the analysis that follows, we ask whether there is Swissness in the decision behavior, i.e. whether the differences in the distribution of answers are smaller among Swiss speaking different languages than among participants speaking the same language but living in different countries.

Table 1: Regional distribution of answers

The table shows the percentage of participants within regions choosing a particular answer to each of our questions as well as the number of participants (N) in each region. The last column shows the distribution of answers of all participants. The answers treated as no mistakes are given in italics.

		SwissG	SwissF	SwissI	G	F	I	All
risk taking after losses	a) (always true)	0.6	0.5	1.0	1.9	3.0	4.2	1.8
	b) (mostly true)	3.0	4.5	7.8	7.5	14.1	16.0	8.1
	c) (seldom true)	*37.8*	*31.2*	*35.0*	*36.0*	*36.1*	*47.6*	*38.2*
	d) (never true)	*36.1*	*42.6*	*33.0*	*38.5*	*23.9*	*16.8*	*31.8*
	e) (experience)	*22.5*	*21.3*	*23.3*	*16.1*	*23.0*	*15.4*	*20.1*
N		701	202	103	361	305	357	2,029
behavior after losses	a) (buy)	12.1	8.4	9.7	15.0	14.1	21.6	14.1
	b) (sell)	3.3	2.5	3.9	8.3	13.1	11.2	7.0
	c) (hold)	35.3	51.5	41.8	31.0	48.5	42.3	39.7
	d) (check idea)	*49.3*	*37.6*	*44.7*	*45.7*	*24.3*	*24.9*	*39.2*
N		702	202	103	361	305	357	2,030
behavior after gains	a) (sell)	58.4	57.0	69.6	62.3	59.3	72.0	62.1
	b) (buy)	8.8	10.5	7.8	14.7	20.0	12.0	12.2
	c) (check idea)	*32.9*	*32.5*	*22.6*	*23.0*	*20.7*	*16.0*	*25.7*
N		697	200	102	361	305	357	2,022
reasons for continuing investing	a) (gain)	13.0	18.0	15.5	19.4	32.1	23.8	19.6
	b) (trend)[4]	19.8	13.0	36.9	30.2	20.7	42.3	25.9
	c) (idea)	*40.3*	*24.0*	*16.5*	*29.9*	*11.5*	*18.2*	*27.4*
	d) (experience)	*26.9*	*45.0*	*31.1*	*20.5*	*35.7*	*15.7*	*27.1*
N		698	200	103	361	305	357	2,024
financial planning	*a) (check)*	*73.8*	*69.5*	*68.9*	*82.0*	*85.3*	*81.2*	*77.6*
	b) (losses)	3.0	5.5	5.8	5.8	3.3	5.0	4.3
	c) (uncertain)	*14.1*	*15.0*	*16.5*	*6.9*	*5.9*	*7.0*	*10.6*
	d) (postpone)	9.1	10.0	8.7	5.3	5.6	6.7	7.5
N		702	200	103	361	305	357	2,028
trading on a random walk	*a) (buy and hold)*	*42.4*	*42.4*	*32.4*	*35.5*	*33.4*	*30.5*	*37.2*
	b) (trade)	57.6	57.6	67.7	64.5	66.6	69.5	62.8
N		682	198	102	361	305	357	2,005
performance drivers	*a) (strategic)*	*77.8*	*76.7*	*73.3*	*66.2*	*52.1*	*71.4*	*70.4*
	b) (tactic)	6.5	4.0	5.7	17.2	11.2	10.4	9.5
	c) (selection)	15.8	19.3	21.0	16.6	36.7	18.2	20.1
N		697	202	105	361	305	357	2,027
past long-term reward	a) (cash)	2.4	1.0	1.9	11.1	6.9	8.1	5.4
	b) (gold)	28.3	31.2	28.6	34.9	32.5	22.4	29.4
	c) (bonds)	13.0	7.8	9.5	2.5	3.6	13.7	9.2
	d) (real estate)	21.0	37.1	42.9	22.7	45.6	38.7	30.8
	e) (stocks)	*25.8*	*16.6*	*14.3*	*23.0*	*5.3*	*9.2*	*17.8*
	f) (alt. inv.)	9.5	6.3	2.9	5.8	6.2	7.8	7.4
N		706	205	105	361	305	357	2,039
past long term risk	a) (cash)	2.4	8.3	0.0	5.8	10.8	9.8	6.0

[4] This answer is treated as incorrect if the participant states no investment experience.

	b) (gold)	2.4	1.0	1.9	5.3	3.3	3.4	3.0
	c) (bonds)	2.6	3.4	4.8	3.3	7.2	9.2	4.8
	d) (real estate)	5.0	3.9	3.8	7.5	9.5	5.3	6.0
	e) (stocks)	*42.1*	*36.1*	*53.3*	*45.2*	*52.8*	*56.3*	*46.7*
	f) (alt. inv.)	45.6	47.3	36.2	33.0	16.4	16.0	33.5
N		706	205	105	361	305	357	2,039
portfolio size	a) (1-5)	15.5	20.9	22.1	25.2	34.8	38.7	25.1
	b) (5-10)	52.8	54.7	52.9	57.6	44.3	44.3	51.1
	c) (>10)	*31.7*	*24.4*	*25.0*	*17.2*	*21.0*	*17.1*	*23.8*
N		691	201	104	361	305	357	2,019

2.3 Control Variables

As control variables we include demographic and socio-economic characteristics as well as proxies for industry differences. Most of the demographic and socio-economic variables have been also used in studies analyzing cross-cultural differences in decisions driven by behavioral biases as well as in studies on financial literacy. The socio-economic characteristics have been also used as proxies for investment experience and there is some empirical evidence suggesting that investment experience is relevant for avoiding certain behavioral biases (Koestner et al., 2012). The socio-economic characteristics include the financial wealth and income of the household as well as the real estate ownership and job position. We expect that wealthier participants face less restriction in gaining investment experience. Conversely, we expect that low-income participants are more likely to postpose investment decisions. If investment experience is related to the ability to avoid investment mistakes, we expect that wealth and income would be related to investment competence. Homeowners may have a different investment attitude than others, as homeowners are more likely to have experience with financial decisions related to mortgages. Additionally, we control for influences driven by the job position.

As demographic controls we include age, gender, education (university or school of applied sciences) and household size. We expect that older and male respondents are more experienced, while better-educated respondents are likely to have stronger cognitive abilities that may be helpful in avoiding behavioral traps. Calvet et al. (2009) find that larger households show a significantly higher financial sophistication measured as the ability to avoid mistakes such as under-diversification, inertia in risk-taking and the disposition effect.

In addition to income and wealth used in previous studies as proxies of investment experience, we asked participants to state their investment experience with different asset classes on a four-levels scale.[5] In the context of investment competence, this subjective measure controls for regional differences in overconfidence.

Finally, we expect that Swiss might decide differently because of a stronger exposure to the banking industry, i.e. they are probably more likely to be employed in the financial sector or may have an easier assess to advisors. If an employment in the banking industry matters for the investment competence, then we expect that it will be reflected in the investment experience that participants state. Regarding the availability of financial advisors, we expect that an easier assess to advisors does not necessary improves decisions. A necessary condition for learning from advisors is to consider their opinion when making decisions. To assess the individual willingness to improve the quality of decision making with the help of an advisor, we ask

[5] Principal component analysis indicates that investment experience is in general not limited to a particular asset class, and the experience statements with the different asset classes can be well summarized by one measure.

participants to state how important is the opinion of their own (or a potential) advisor for their financial decisions.

2.4 Descriptive Statistics

The results of this study are based on the answers of 2039 individuals. About half of them live in Switzerland and the rest lives in the neighborhood regions of Germany, Italy and France. 35% of all participants live in the German-speaking part, 10% in the French-speaking part and 5% in the Italian-speaking part of Switzerland. The sample distribution corresponds to the language distribution in the population in Switzerland. In the sample outside of Switzerland, 18% of all participants live in the southern part of Germany, 15% in the north regions of France and 18% in the north regions of Italy.

Table 2 summarizes the characteristics of the regional samples. The sample is well balanced. All age groups are well represented. 49% of all respondents are female. Overall, 18% of all respondents have a university degree and 23% has a degree from a school of applied sciences. The household income of most of the participants is between 20,000 and 50,000 Euro per year.

It is unlikely that mainly low-income households participated in our study. At least in Switzerland, our participants stated higher households income than participants in larger surveys such as the Swiss Labor Force Survey.[6] In the latter, the distribution of income over the first three income classes is 33%, 42% and 15%, with 8% making no statement about their income (in 2011). The corresponding distribution of income in our sample is 9%, 43% and 30%, with 3% making no statement.

The financial wealth of half of the respondents is less than 30,000 Euro. The wealth distribution of the Swiss participants corresponds to the distribution of net wealth according to the tax statements of Swiss citizens available from the Swiss Federal Statistic Office.[7] For the wealth classes used in our survey, the distribution of net wealth in 2011 is 66%, 10%, 13%, and 11%, which is comparable to the distribution in our sample of 60%, 18%, 7%, and 12% with 3% providing no answer.

It is also unlikely that mainly low-educated individuals participated in our survey. According to the Swiss Federal Statistical Office, 35% of all individuals between 25 and 64 years with a permanent residence in Switzerland had a university degree or a degree from a school of applied sciences (in 2011).[8] In our sample, 49% of all Swiss participants state that they have these degrees of higher education.

[6] The Swiss Labor Force Survey is based on statements of about 4,000 participants with permanent residence in Switzerland.
[7] Source: http://www.bfs.admin.ch/bfs/portal/de/index/themen/20/02/blank/key/vermoegen.html.
[8] Source: http://www.bfs.admin.ch/bfs/portal/de/index/themen/15/17/blank/01.indicator.406101.4086.html?open=9#9

Table 2: Demographic and socio-economic characteristics

The table shows the distribution of the control variables between all regions (SwissG: German-speaking Swiss, SwissF: French-speaking Swiss, SwissI: Italian-speaking Swiss, G: German, F: French, I: Italian). Income and wealth characteristics are given in Euro. The corresponding Swiss francs values are given in the appendix.

	SwissG	SwissF	SwissI	G	F	I	All
age (N=2039)							
25-30	6.8%	7.3%	7.6%	23.5%	17.0%	20.7%	13.8%
31-40	21.4%	21.5%	21.9%	19.4%	32.1%	22.1%	22.8%
41-50	30.6%	29.8%	24.8%	19.4%	21.6%	19.9%	25.0%
51-60	23.1%	17.6%	23.8%	22.2%	19.7%	23.8%	22.0%
61-70	18.1%	23.9%	21.9%	15.5%	9.5%	13.4%	16.3%
gender (N=2039)							
female	44.3%	48.3%	50.5%	50.4%	58.7%	50.7%	49.4%
household size (N=2035)							
1 person	22.3%	16.7%	26.7%	24.4%	13.8%	17.1%	20.1%
2 persons	34.8%	32.5%	30.5%	47.1%	34.8%	29.4%	35.6%
3 persons	11.9%	14.8%	21.0%	15.8%	20.0%	28.9%	17.5%
4 persons	20.2%	24.1%	16.2%	10.8%	19.3%	21.3%	18.8%
5 or more persons	10.8%	11.8%	5.7%	1.9%	12.1%	3.4%	8.0%
education (N=2029)							
school of applied sciences	33.4%	25.2%	21.2%	10.0%	36.1%	6.4%	23.5%
university degree	15.6%	22.8%	25.0%	16.3%	10.5%	26.5%	18.1%
total higher education	49.0%	48.0%	46.2%	26.3%	46.6%	32.9%	41.6%
real estate ownership (N=2035)							
yes	37.6%	37.9%	33.3%	52.6%	35.7%	29.4%	38.4%
household's income (N=2039)							
no statement	2.3%	2.4%	4.8%	15.2%	9.5%	16.2%	8.2%
<20,000 Euro	9.1%	7.8%	14.3%	17.5%	16.1%	17.1%	13.1%
20,000-50,000 Euro	41.6%	45.4%	44.8%	41.6%	56.4%	48.5%	45.6%
50,000-80,000 euro	30.7%	29.3%	25.7%	16.6%	12.8%	12.6%	22.0%
>80,000 Euro	16.3%	15.1%	10.5%	9.1%	5.2%	5.6%	11.1%
household's financial wealth (N=2039)							
no statement	2.7%	3.9%	8.6%	23.3%	17.0%	24.4%	12.7%
<30,000 Euro	57.9%	67.3%	53.3%	45.7%	56.1%	42.3%	53.5%
30,000-70,000 Euro	18.0%	16.6%	18.1%	17.5%	14.4%	17.6%	17.2%
70,000-100,000 Euro	7.2%	4.4%	6.7%	5.5%	5.6%	6.2%	6.2%
>100,000 Euro	14.2%	7.8%	13.3%	8.0%	6.9%	9.5%	10.5%
employment status (N=2022)							
trainee	0.1%	1.5%	0.0%	2.8%	0.7%	2.0%	1.1%
company manager (leading position)	4.3%	0.5%	2.9%	1.1%	1.6%	0.8%	2.3%
team manager (leading position)	15.5%	5.5%	6.8%	13.6%	5.2%	5.3%	10.4%
employee (executive position)	39.8%	33.21%	35.9%	33.2%	46.2%	34.2%	37.8%
assistant	7.0%	15.6%	3.9%	7.8%	8.9%	3.6%	7.5%
job-seeking	1.4%	7.0%	4.9%	4.7%	8.9%	7.6%	4.9%
self-employment	9.9%	10.6%	11.7%	12.5%	6.2%	12.9%	10.5%
other professional activity	21.8%	26.1%	34.0%	24.4%	22.3%	33.6%	25.5%
stated investment experience (N=1976)							
above-average investment experience	43.2%	36.8%	45.9%	37.9%	33.4%	70.6%	45.2%
no investment experience	18.1%	33.7%	24.5%	26.0%	40.0%	11.5%	23.5%
importance of the own/potential advisor's opinion (N=1997)							
strong	24.4%	28.9%	31.3%	19.7%	31.8%	40.1%	28.2%
medium	53.5%	54.6%	50.0%	52.1%	53.1%	47.9%	52.1%
low	22.1%	16.5%	18.8%	28.3%	15.1%	12.0%	19.6%

2.5 Data Analysis

To compare the regional differences in the investment decision behavior and competence while taking into account relevant regional characteristics that might influence the results, we use multinomial, ordered and logistic regressions in dependence on the type of the dependent variable. The regional differences are captured by indicator variables. The estimation coefficients of these variables measure the predicted differences in the regions as compared to a reference group. This is of limited use for our research question, as we need to compare German-speaking Swiss with German, French-speaking Swiss with French and Italian-speaking Swiss with Italian as well as German- French- and Italian-speaking Swiss among each other.

In other words, we need to compare differences in estimation coefficients. To accomplish this, we first use the estimation results to calculate the predicted values of the dependent variable if all participants would live in one of the six regions keeping everything else equal. Then, we calculate the difference in the predicted values of the dependent variable between two regions of interest, i.e. between regions using the same language (SwissG and G, SwissF and F, and Swiss I and I) and between regions using a different language in the same country (SwissF and SwissG, SwissI and SwissG, and Swiss I and SwissF). The statistical significance of these differences is tested with the Delta method. All tests are adjusted for multiple comparisons by the Bonferroni method. We shall conclude that there is Swissness if the difference in predicted values of the dependent variable between Swiss and Non-Swiss speaking the same language is larger (in absolute terms) than the differences between Swiss speaking the same language.

3 Results

3.1 Differences in the Investment Decision Behavior

We estimate multinomial logistic regressions with the answers to a particular question as a dependent variable. Table 3 includes the estimated differences in the predicted probabilities between two regions of interest. For convenience, the dependent variables for each regression are included in the column on the left side of the table. The independent variables are included in the columns on the top of the table. For brevity, we do not report estimation results for the control variables. For each question, we test whether the differences between the answers are statistically significant. We find that only in the second survey questions the answer a) to d) can be pooled. In all questions, Hausman-McFadden tests suggest that the null hypothesis of independent alternatives cannot be rejected.

Columns 1 to 3 show the estimated differences in the decision behavior of Swiss and Non-Swiss speaking the same language. The results in columns 4 to 6 show the estimated differences in the decision behavior of Swiss speaking different languages. The results suggest that Swiss decide differently as compared to their closest neighbors abroad using the same language, while the differences among Swiss speaking different languages are in most questions not significant. This observation suggests that Swiss are closer to each other than to their neighbors abroad speaking the same language, i.e. there is Swissness in the decision behavior.

While there is Swissness in the decisions behavior in most of the questions, there are two exceptions. The first one is the perceived attractiveness of different asset classes as long-term investments. While we do not see regional differences in the perceived attractiveness of gold, we observe Swissness in the perceived attractiveness of cash and bonds but no Swissness in the perceived attractiveness of real estate, stocks and alternative investments.

The second exception refers to the applied reasons for continuing an investment. Comparing again the differences between Swiss and Non-Swiss and the differences between Swiss, we can conclude that in the consideration of previous gains and trends, Swiss are closer to their neighbors abroad speaking the same language than to other Swiss. However, we observe strong Swissness in the propensity to admit a lack of experience when answering this question (answer d).

Apart from these two exceptions, we observe no significant differences in the decision behavior of Swiss but significant differences in the decision behavior of Swiss and Non-Swiss speaking the same

language. Hence, we can conclude that there is Swissness in the decision behavior that cannot be explained by regional demographic and socio-economic differences.

Table 3: Regional differences in the decision behavior

The table reports regional differences in the predicted probabilities after multinomial logit regressions with controls. The dependent variables are the answers to each of our investment competence questions. All tests are adjusted for multiple comparisons by the Bonferroni method. Robust standard errors are reported in parenthesis. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Independent variables		SwissG-G	SwissF-F	SwissI-I	SwissF-SwissG	SwissI-SwissG	SwissI-SwissF	Pseudo R^2
Dependent variable		(1)	(2)	(3)	(4)	(5)	(6)	
risk taking after losses	a) (always true)	-0.01	-0.024	-0.022	0.002	0.006	0.005	
N=1931		(0.007)	(0.013)	(0.016)	(0.009)	(0.014)	(0.016)	
	b) (mostly true)	-0.05***	-0.097***	-0.065	0.014	0.058	0.044	
		(0.016)	(0.027)	(0.036)	(0.017)	(0.033)	(0.035)	
	c) (seldom true)	0.017	-0.037	-0.102	-0.039	-0.041	-0.002	
		(0.033)	(0.046)	(0.055)	(0.04)	(0.051)	(0.059)	
	d) (never true)	-0.07	0.128**	0.113*	0.062	-0.036	-0.097	
		(0.034)	(0.045)	(0.05)	(0.041)	(0.048)	(0.058)	
	e) (experience)	0.112***	0.03	0.076	-0.038	0.013	0.051	
		(0.024)	(0.036)	(0.052)	(0.034)	(0.049)	(0.055)	0.1210
behavior after losses	a) (buy)	-0.024	-0.058	-0.093**	-0.019	-0.023	-0.004	
N=1930		(0.024)	(0.033)	(0.038)	(0.028)	(0.034)	(0.04)	
	b) (sell)	-0.041**	-0.115***	-0.054	-0.006	0.016	0.022	
		(0.016)	(0.026)	(0.03)	(0.015)	(0.025)	(0.028)	
	c) (hold)	0.045	0.042	0.012	0.12**	0.063	-0.057	
		(0.033)	(0.049)	(0.058)	(0.043)	(0.055)	(0.064)	
	d) (check idea)	0.02	0.131**	0.135*	-0.094*	-0.055	0.039	
		(0.035)	(0.045)	(0.058)	(0.042)	(0.055)	(0.063)	0.0763
behavior after gains	a) (sell)	-0.051	-0.015	-0.008	-0.009	0.14**	0.15**	
N=1924		(0.034)	(0.048)	(0.053)	(0.043)	(0.051)	(0.06)	
	b) (buy)	-0.042	-0.103***	-0.034	-0.008	-0.025	-0.017	
		(0.023)	(0.032)	(0.033)	(0.025)	(0.032)	(0.036)	
	c) (check idea)	0.093***	0.118**	0.042	0.017	-0.116**	-0.133*	
		(0.031)	(0.044)	(0.047)	(0.04)	(0.046)	(0.056)	0.0484
reasons for continuing investing	a) (gain)	-0.046	-0.111**	-0.067	0.092**	0.021	-0.072	
N=1927		(0.025)	(0.045)	(0.043)	(0.036)	(0.04)	(0.051)	
	b) (trend)	-0.119***	-0.117***	-0.035	-0.064*	0.159***	0.224***	
		(0.031)	(0.036)	(0.053)	(0.03)	(0.048)	(0.052)	
	c) (idea)	0.036	0.102**	-0.027	-0.116***	-0.223***	-0.106*	
		(0.033)	(0.04)	(0.038)	(0.036)	(0.037)	(0.046)	
	d) (experience)	0.13***	0.126***	0.129**	0.088**	0.043	-0.046	
		(0.024)	(0.038)	(0.046)	(0.036)	(0.043)	(0.051)	0.1780
financial planning	a) (check)	-0.101***	-0.138***	-0.105	-0.013	-0.064	-0.051	
N=1927		(0.027)	(0.039)	(0.055)	(0.037)	(0.052)	(0.059)	
	b) (losses)	-0.02	0.029	0.03	0.026	0.041	0.015	
		(0.014)	(0.021)	(0.031)	(0.02)	(0.029)	(0.033)	
	c) (uncertain)	0.081***	0.056*	0.077	-0.034	0.027	0.061	
		(0.02)	(0.026)	(0.044)	(0.027)	(0.042)	(0.046)	
	d) (postpone)	0.039**	0.053	-0.002	0.021	-0.005	-0.026	
		(0.016)	(0.027)	(0.034)	(0.025)	(0.031)	(0.037)	0.0895
active vs. passive investment	b) (trade)	-0.082**	-0.074	-0.022	0.01	0.114*	0.105	
N=1910		(0.034)	(0.048)	(0.055)	(0.043)	(0.053)	(0.062)	0.0242
performance drivers	a) (strategic)	0.078**	0.237***	-0.014	0.014	-0.063	-0.076	
N=1926		(0.031)	(0.044)	(0.055)	(0.036)	(0.052)	(0.059)	
	b) (tactical)	-0.078***	-0.058*	-0.027	-0.029	-0.02	0.008	
		(0.023)	(0.026)	(0.03)	(0.021)	(0.029)	(0.032)	
	c) (selection)	0.000	-0.179***	0.041	0.015	0.083	0.068	
		(0.025)	(0.04)	(0.051)	(0.032)	(0.048)	(0.054)	0.0632
past long-term rewards	a) (cash)	-0.076***	-0.057***	-0.063**	-0.014	-0.001	0.014	
N=1933		(0.018)	(0.017)	(0.024)	(0.01)	(0.018)	(0.019)	
	b) (gold)	-0.057	-0.006	0.037	0.034	-0.001	-0.035	
		(0.032)	(0.044)	(0.055)	(0.039)	(0.052)	(0.059)	
	c) (bonds)	0.114***	0.044	-0.064	-0.063**	-0.078**	-0.015	
		(0.018)	(0.023)	(0.031)	(0.025)	(0.029)	(0.032)	
	d) (real estate)	-0.013	-0.111**	0.095	0.102**	0.253***	0.15*	
		(0.03)	(0.046)	(0.059)	(0.039)	(0.055)	(0.063)	
	e) (stocks)	-0.014	0.119***	0.049	-0.045	-0.103**	-0.058	
		(0.029)	(0.034)	(0.035)	(0.033)	(0.036)	(0.044)	
	f) (alt. inv.)	0.045**	0.012	-0.054*	-0.014	-0.07***	-0.056	
		(0.017)	(0.027)	(0.023)	(0.024)	(0.02)	(0.027)	0.1073
past short-term risk	a)-d)	-0.048**	-0.044	-0.104***	0.04	-0.033	-0.072**	
N=1933		(0.018)	(0.031)	(0.025)	(0.025)	(0.019)	(0.028)	
	e) (stocks)	-0.002	-0.144***	-0.012	-0.084	0.094	0.178**	
		(0.035)	(0.047)	(0.058)	(0.041)	(0.054)	(0.062)	
	f) (alt.inv.)	0.049	0.187***	0.115	0.044	-0.062	-0.106	
		(0.035)	(0.047)	(0.057)	(0.042)	(0.054)	(0.062)	0.0600
portfolio size	a) (1-5)	-0.07**	-0.146***	-0.169***	0.018	0.068	0.05	
N=1922		(0.028)	(0.04)	(0.051)	(0.034)	(0.046)	(0.053)	
	b) (5-10)	-0.055	0.14**	0.071	0.035	-0.033	-0.069	
		(0.035)	(0.048)	(0.058)	(0.042)	(0.055)	(0.063)	
	c) (>10)	0.124***	0.005	0.098	-0.054	-0.035	0.019	
		(0.029)	(0.043)	(0.05)	(0.037)	(0.049)	(0.056)	0.0709

3.2 Regional Differences in the Investment Competence

For the comparison of the regional differences in the investment competence, we first evaluate the individual answers with respect to their capacity to motivate investment mistakes as discussed in Section 2.2. To decide which questions should be included in the evaluation of the investment competence, we calculate the tetrachoric correlations between the answers and test their statistical significance (see Table B-1 in the appendix). These correlations reflect the internal consistency of the questions. We observe that two questions ("financial planning" and "past short-term risks") show a negative or no significant correlation with the rest of the questions. It seems that these questions either measure a different construct than investment competence or the questions are defined imprecisely. Hence, we exclude these questions from our investment competence measure.

Principle component analysis applied on the rest of the questions suggests that the questions can be analyzed in three dimensions. The first dimension includes questions asking for a decision in the context of gains and losses ("risk taking after losses", "behavior after losses", "behavior after gains", "continuing investing"). Since mistakes in these questions are driven mainly by emotional factors, we will call this dimension "emotional competence". The second dimension includes questions assessing the investment knowledge ("past rewards", "performance driver", "portfolio size"). We will call this dimension "investment knowledge". The third dimension includes mainly the question "random walk trading". Due to the low correlations between the questions the three dimensions explain only 53% of the variance in the data. For this reason we abstain from using the principle components as proxies for investment competence. Instead, we use the structure suggested by the principle component analysis to build three simple indices of investment competence based on the number of questions answered in a suboptimal way.

Table 4 includes summary statistics of the investment competence in each dimension. All Swiss show a higher emotional competence and a better knowledge than Non-Swiss. However, in terms of trading on a random walk, only German- and French-speaking Swiss show a greater competence than Non-Swiss. In the following, we assess whether the stronger investment competence of Swiss establish Swissness after considering differences in the investment competence driven by the control variables introduced in Section 2.3.

Table 4: Summary statistics of investment competence

	Emotional competence				Investment knowledge				Trading on a random walk			
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
SwissG	1.735	1.063	0	4	1.615	0.826	0	3	0.576	0.495	0	1
SwissF	1.819	1.138	0	4	1.795	0.771	0	3	0.575	0.495	0	1
SwissI	1.904	0.985	0	4	1.857	0.765	0	3	0.676	0.470	0	1
G	2.014	1.099	0	4	1.936	0.774	0	3	0.645	0.479	0	1
F	2.449	1.078	0	4	2.216	0.706	0	3	0.666	0.473	0	1
I	2.529	1.026	0	4	2.022	0.707	0	3	0.695	0.461	0	1

Table 5 reports differences in the predicted competence between regions and between individuals with different characteristics. Depending on the dependent variable, we use ordinal logit, logit or robust regressions. The results suggest that the regional differences depend on the type of competence. In the emotional competence, Swiss in all regions show a better ability to respond optimally on gains and losses than their neighbors abroad speaking the same language. The largest differences (in the range between 11%

and 14%) are among the participants with lower competence. Additionally, we observe that all differences in in the emotional competence of Swiss are statistically not significant, so that we can conclude that there is Swissness in all language regions.

In the investment knowledge, only German- and French-speaking Swiss are significantly better than their neighbors abroad with no significant differences among each other. The investment knowledge of Italian-speaking Swiss is similar to the investment knowledge of their Italian-speaking neighbors and much lower than the knowledge of German-speaking Swiss. We can conclude that there is Swissness only the two main language regions of Switzerland. There is no Swissness in the ability to avoid excessive trading.

Over all questions, Swiss make significantly less mistakes than their neighbors abroad do, but there are significant differences in the investment competence of Italian- and German-speaking Swiss. Since the latter (0.543) are smaller than the estimated differences between German-speaking Swiss and German (0.611), we conclude that there is Swissness in the overall investment competence. In the context of the previous observations, we can say that the Swissness in the investment competence is more likely to be emotionally- than knowledge-driven.

Beyond the regional differences, we find that individuals stating a stronger investment experience have also stronger investment knowledge. However, these individuals are significantly more likely to respond emotionally after gains and losses. Similarly, individuals with higher education show a stronger knowledge, but their decisions are affected by the same emotions as the decisions of individuals with a lower education. Emotionally driven mistakes are additionally less likely for older, male participants with high income in leading job positions who do not consider advisor's opinion as important. The financial knowledge is stronger for male participants with high income and high wealth. The overall investment competence increases with age and decreases with income and wealth. We observe also significant gender differences in the investment competence.

Table 5: Regional differences in the investment competence

The table reports differences in the predicted probability of mistakes respectively predicted number of mistakes between regions and between individuals with different characteristics. The base categories of the latter are: age 25-30, male, no higher education, importance of advisors (low), no real estate, employee (executive position), income >80,000 Euro, financial wealth > 100,000 Euro. All tests are adjusted for multiple comparisons by the Bonferroni method. Robust standard errors are reported in parenthesis. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	emotional competence p(number of mistakes)					investment knowledge p(number of mistakes)				trading on a random walk	overall competence
	p(0)	p(1)	p(2)	p(3)	p(4)	p(0)	p(1)	p(2)	p(3)	p(1)	number of mistakes
SwissG-G	0.036***	0.047***	-0.005	-0.055***	-0.023**	0.034***	0.09***	-0.044***	-0.08***	-0.040	-0.611***
	(0.012)	(0.016)	(0.003)	(0.018)	(0.008)	(0.007)	(0.021)	(0.01)	(0.019)	(0.021)	(0.101)
SwissF-F	0.066***	0.115***	0.038***	-0.135***	-0.085***	0.039***	0.133***	-0.003	-0.168***	-0.121***	-1.012***
	(0.016)	(0.022)	(0.011)	(0.026)	(0.017)	(0.009)	(0.025)	(0.014)	(0.03)	(0.03)	(0.139)
SwissI-I	0.05***	0.093***	0.041***	-0.109***	-0.075***	0.014	0.051	0.001	-0.067	-0.019	-0.670***
	(0.014)	(0.023)	(0.01)	(0.027)	(0.016)	(0.009)	(0.031)	(0.006)	(0.037)	(0.029)	(0.172)
SwissF-SwissG	-0.014	-0.017	0.004	0.019	0.007	-0.015	-0.036	0.024	0.027	-0.034	0.207
	(0.016)	(0.02)	(0.004)	(0.023)	(0.009)	(0.009)	(0.024)	(0.014)	(0.019)	(0.03)	(0.124)
SwissI-SwissG	-0.031	-0.04	0.005	0.046	0.019	-0.033***	-0.089**	0.044***	0.078**	0.058	0.543***
	(0.016)	(0.022)	(0.002)	(0.026)	(0.011)	(0.01)	(0.031)	(0.011)	(0.032)	(0.03)	(0.162)
SwissI-SwissF	-0.017	-0.023	0.001	0.027	0.011	-0.018	-0.052	0.02	0.051	0.092**	0.336
	(0.02)	(0.027)	(0.003)	(0.032)	(0.014)	(0.012)	(0.035)	(0.013)	(0.036)	(0.037)	(0.187)
age 31-40	0.012	0.021	0.009	-0.023	-0.018	-0.002	-0.005	0.000	0.006	-0.035	-0.073
	(0.010)	(0.017)	(0.008)	(0.019)	(0.016)	(0.007)	(0.020)	(0.002)	(0.025)	(0.039)	(0.114)
age 41-50	0.025**	0.041**	0.014*	-0.046**	-0.034**	0.015*	0.039*	-0.011*	-0.043*	0.009	-0.275**
	(0.010)	(0.017)	(0.007)	(0.019)	(0.015)	(0.008)	(0.021)	(0.006)	(0.024)	(0.039)	(0.116)
age 51-60	0.047***	0.069***	0.015**	-0.079***	-0.052***	0.009	0.024	-0.005	-0.028	-0.002	-0.405***
	(0.012)	(0.018)	(0.007)	(0.020)	(0.015)	(0.008)	(0.022)	(0.005)	(0.026)	(0.040)	(0.119)
age 61-70	0.045***	0.067***	0.015**	-0.077***	-0.051***	-0.001	-0.004	0.000	0.005	-0.043	-0.358**
	(0.014)	(0.021)	(0.007)	(0.023)	(0.016)	(0.009)	(0.026)	(0.003)	(0.032)	(0.049)	(0.144)
female	-0.018**	-0.026**	-0.004**	0.029**	0.019**	-0.017***	-0.047***	0.011***	0.053***	0.025	0.293***
	(0.007)	(0.010)	(0.002)	(0.012)	(0.008)	(0.005)	(0.013)	(0.004)	(0.014)	(0.024)	(0.070)
household size	0.000	0.000	0.000	-0.000	-0.000	0.000	0.000	-0.000	-0.000	0.004	0.018
	(0.003)	(0.004)	(0.001)	(0.005)	(0.003)	(0.002)	(0.005)	(0.001)	(0.006)	(0.010)	(0.031)
higher education	0.004	0.005	0.001	-0.006	-0.004	0.012**	0.033**	-0.009**	-0.037***	0.025	-0.072
	(0.007)	(0.010)	(0.002)	(0.012)	(0.008)	(0.005)	(0.013)	(0.004)	(0.014)	(0.024)	(0.072)
investment experience	-0.009***	-0.013***	-0.002***	0.015***	0.009***	0.008***	0.021***	-0.005***	-0.023***	-0.000	0.010
	(0.003)	(0.004)	(0.001)	(0.004)	(0.003)	(0.002)	(0.004)	(0.001)	(0.005)	(0.008)	(0.023)
importance advisor (high)	-0.034***	-0.046***	-0.004	0.053***	0.031***	0.004	0.011	-0.002	-0.013	0.002	0.169*
	(0.011)	(0.014)	(0.003)	(0.017)	(0.009)	(0.006)	(0.017)	(0.003)	(0.020)	(0.033)	(0.099)
importance advisor (medium)	-0.025**	-0.033**	-0.001	0.038**	0.022***	0.004	0.011	-0.002	-0.013	0.004	0.099
	(0.011)	(0.013)	(0.002)	(0.015)	(0.008)	(0.006)	(0.015)	(0.003)	(0.018)	(0.029)	(0.088)
real estate owner	-0.005	-0.007	-0.001	0.008	0.005	-0.004	-0.011	0.003	0.013	-0.037	0.032
	(0.008)	(0.011)	(0.002)	(0.013)	(0.008)	(0.005)	(0.013)	(0.003)	(0.015)	(0.025)	(0.075)
income: no statement	-0.057***	-0.073**	-0.002	0.084***	0.048**	-0.028**	-0.073*	0.029*	0.072*	-0.101	0.510***
	(0.021)	(0.029)	(0.009)	(0.032)	(0.022)	(0.014)	(0.038)	(0.015)	(0.040)	(0.068)	(0.197)
income <20,000 Euro	-0.051***	-0.063***	0.001	0.073***	0.040***	-0.028**	-0.073**	0.029*	0.072**	-0.036	0.538***
	(0.019)	(0.023)	(0.005)	(0.026)	(0.015)	(0.012)	(0.030)	(0.015)	(0.029)	(0.052)	(0.154)
income 20,000-50,000 Euro	-0.045***	-0.053***	0.003	0.062***	0.033***	-0.028***	-0.073***	0.029**	0.073***	0.005	0.521***
	(0.016)	(0.017)	(0.004)	(0.020)	(0.010)	(0.011)	(0.025)	(0.015)	(0.022)	(0.039)	(0.121)
income 50,000-80,000 Euro	-0.047***	-0.056***	0.002	0.065***	0.035***	-0.016	-0.038	0.020	0.034	-0.005	0.445***
	(0.016)	(0.018)	(0.005)	(0.021)	(0.011)	(0.011)	(0.025)	(0.015)	(0.022)	(0.040)	(0.124)
wealth: no statement	0.036*	0.046*	0.003	-0.053*	-0.032*	-0.014	-0.033	0.015	0.032	0.137**	-0.006
	(0.020)	(0.024)	(0.005)	(0.028)	(0.017)	(0.014)	(0.033)	(0.015)	(0.032)	(0.057)	(0.175)
wealth <30,000 Euro	0.015	0.021	0.004	-0.024	-0.016	-0.026**	-0.068***	0.023*	0.070***	0.081*	0.175
	(0.012)	(0.017)	(0.004)	(0.020)	(0.014)	(0.010)	(0.024)	(0.012)	(0.022)	(0.043)	(0.124)
wealth 30,000-70,000 Euro	-0.011	-0.017	-0.005	0.019	0.014	-0.014	-0.034	0.016	0.033	0.072	0.287**
	(0.012)	(0.018)	(0.006)	(0.020)	(0.015)	(0.011)	(0.026)	(0.013)	(0.024)	(0.045)	(0.132)
wealth 70,000-100,000 Euro	-0.019	-0.030	-0.012	0.033	0.027	-0.006	-0.014	0.007	0.013	0.043	0.286*
	(0.014)	(0.023)	(0.010)	(0.025)	(0.021)	(0.013)	(0.030)	(0.015)	(0.027)	(0.057)	(0.166)
trainee	-0.021	-0.033	-0.009	0.037	0.027	0.005	0.013	-0.003	-0.014	-0.307***	-0.122
	(0.024)	(0.040)	(0.017)	(0.044)	(0.036)	(0.022)	(0.055)	(0.017)	(0.060)	(0.101)	(0.317)
company manager (leading position)	0.066*	0.070**	-0.011	-0.084**	-0.041***	-0.004	-0.012	0.002	0.015	0.097	-0.221
	(0.039)	(0.031)	(0.016)	(0.040)	(0.016)	(0.016)	(0.044)	(0.005)	(0.055)	(0.068)	(0.232)
team manager (leading position)	0.000	0.000	0.000	-0.000	-0.000	0.003	0.008	-0.002	-0.009	-0.079**	-0.140
	(0.013)	(0.018)	(0.003)	(0.021)	(0.013)	(0.008)	(0.022)	(0.006)	(0.025)	(0.040)	(0.117)
assistant	-0.023**	-0.037*	-0.011	0.041**	0.030*	-0.002	-0.006	0.001	0.007	-0.081*	0.091
	(0.011)	(0.019)	(0.008)	(0.021)	(0.017)	(0.007)	(0.020)	(0.004)	(0.024)	(0.046)	(0.131)
job-seeking	0.003	0.004	0.000	-0.004	-0.003	-0.010	-0.028	0.003	0.035	-0.091	-0.017
	(0.018)	(0.024)	(0.003)	(0.028)	(0.017)	(0.009)	(0.026)	(0.002)	(0.035)	(0.056)	(0.161)
self-employment	-0.018*	-0.028*	-0.007	0.031*	0.022	0.001	0.003	-0.001	-0.003	-0.023	0.095
	(0.010)	(0.017)	(0.006)	(0.019)	(0.014)	(0.008)	(0.020)	(0.005)	(0.023)	(0.039)	(0.117)
other professional activity	0.011	0.015	0.001	-0.017	-0.010	0.006	0.015	-0.004	-0.017	-0.067**	-0.165*
	(0.010)	(0.014)	(0.001)	(0.016)	(0.009)	(0.007)	(0.018)	(0.005)	(0.020)	(0.033)	(0.099)
N	1933	1933	1933	1933	1933	1933	1933	1933	1933	1910	1933
Method	ordered logit regression					ordered logit regression				logit regression	robust regression

3.3 Further results

To shed some light on the drivers of the Swissness effect, we build subsamples upon individual characteristics that could explain the stronger investment competence of Swiss. We hypothesize that Swiss may have a different relationship to their advisors than Non-Swiss and this may influence their ability to learn from advisors. Table 6 reports the regional differences in the emotional competence and in the investment knowledge of three subsamples build upon the stated importance of advisor's opinion. We observe that the degree of Swissness varies between the subsamples. In the emotional competence, the degree of Swissness increases with the importance of the advisor's opinion. In the investment knowledge, there is Swissness in the subsample of individuals who consider the advisor's opinion as of average importance and no Swissness in the other two subsamples. These observations suggest that Swiss are likely to have a different relationship to advisors than Non-Swiss that help them to reduce the risk of emotional decisions in the face of gains and losses and to improve their investment knowledge.

Table 6: Regional differences depending on the advisor's importance

The table reports differences in predicted probabilities of regional variables after ordered logit regressions with controls. Robust standard errors are reported in parenthesis. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	subsample: importance of advisor's opinion (high)					subsample: importance of advisor's opinion (moderate)					subsample: importance of advisor's opinion (low)				
	p(0)	p(1)	p(2)	p(3)	p(4)	p(0)	p(1)	p(2)	p(3)	p(4)	p(0)	p(1)	p(2)	p(3)	p(4)
Emotional competence															
SwissG-G	0.043**	0.093**	0.024	-0.116**	-0.044*	0.046**	0.059**	-0.006	-0.066**	-0.033**	-0.017	-0.013	0.009	0.015	0.006
	(0.016)	(0.035)	(0.018)	(0.044)	(0.02)	(0.017)	(0.022)	(0.005)	(0.025)	(0.013)	(0.035)	(0.026)	(0.019)	(0.03)	(0.012)
SwissF-F	0.043	0.100*	0.039	-0.128**	-0.055*	0.057***	0.107***	0.052***	-0.114***	-0.102***	0.147*	0.145***	-0.045	-0.165***	-0.082**
	(0.022)	(0.044)	(0.019)	(0.053)	(0.023)	(0.018)	(0.029)	(0.016)	(0.031)	(0.027)	(0.064)	(0.045)	(0.044)	(0.054)	(0.032)
SwissI-I	0.077*	0.172***	0.068**	-0.215***	-0.101***	0.037	0.072	0.035**	-0.077	-0.067*	0.009	0.016	0.008	-0.018	-0.014
	(0.033)	(0.05)	(0.026)	(0.058)	(0.025)	(0.021)	(0.036)	(0.014)	(0.039)	(0.029)	(0.035)	(0.061)	(0.027)	(0.07)	(0.053)
SwissF-SwissG	-0.007	-0.012	0.001	0.014	0.004	-0.037	-0.046	0.007	0.052	0.025	0.064	0.040	-0.039	-0.047	-0.017
	(0.023)	(0.042)	(0.002)	(0.049)	(0.014)	(0.02)	(0.026)	(0.004)	(0.03)	(0.015)	(0.065)	(0.033)	(0.042)	(0.041)	(0.015)
SwissI-SwissG	0.017	0.027	-0.006	-0.031	-0.008	-0.05*	-0.065	0.005	0.074	0.037	-0.079*	-0.096	0.010	0.108	0.058
	(0.033)	(0.05)	(0.014)	(0.056)	(0.014)	(0.023)	(0.035)	(0.008)	(0.039)	(0.023)	(0.037)	(0.056)	(0.023)	(0.064)	(0.044)
SwissI-SwissF	0.024	0.039	-0.006	-0.044	-0.012	-0.013	-0.019	-0.002	0.022	0.012	-0.142	-0.136*	0.049	0.155*	0.075
	(0.037)	(0.058)	(0.014)	(0.066)	(0.018)	(0.026)	(0.04)	(0.006)	(0.045)	(0.027)	(0.067)	(0.06)	(0.047)	(0.07)	(0.045)
Investment knowledge															
SwissG-G	0.023	0.091	-0.051	-0.063		0.036***	0.074**	-0.037**	-0.073**		0.032*	0.096**	-0.035	-0.093*	
	(0.012)	(0.048)	(0.025)	(0.036)		(0.012)	(0.026)	(0.013)	(0.026)		(0.014)	(0.039)	(0.018)	(0.039)	
SwissF-F	0.017	0.105*	0.032	-0.154**		0.057***	0.142***	-0.022	-0.176***		0.038	0.138*	0.003	-0.179*	
	(0.01)	(0.048)	(0.023)	(0.06)		(0.016)	(0.032)	(0.021)	(0.038)		(0.022)	(0.061)	(0.039)	(0.076)	
SwissI-I	-0.001	-0.004	0.000	0.006		0.03	0.087	0.006	-0.123*		0.013	0.046	-0.007	-0.052	
	(0.009)	(0.056)	(0.007)	(0.072)		(0.017)	(0.042)	(0.016)	(0.052)		(0.024)	(0.078)	(0.022)	(0.084)	
SwissF-SwissG	-0.026	-0.106	0.055*	0.077		-0.005	-0.008	0.006	0.007		-0.008	-0.022	0.013	0.017	
	(0.013)	(0.051)	(0.024)	(0.044)		(0.017)	(0.029)	(0.021)	(0.025)		(0.022)	(0.058)	(0.033)	(0.047)	
SwissI-SwissG	-0.034**	-0.148**	0.057**	0.125		-0.031	-0.062	0.034	0.06		-0.019	-0.053	0.027	0.045	
	(0.013)	(0.057)	(0.023)	(0.066)		(0.019)	(0.042)	(0.017)	(0.045)		(0.023)	(0.07)	(0.028)	(0.066)	
SwissI-SwissF	-0.008	-0.042	0.002	0.048		-0.027	-0.055	0.028	0.053		-0.011	-0.031	0.014	0.028	
	(0.012)	(0.065)	(0.012)	(0.076)		(0.023)	(0.047)	(0.023)	(0.049)		(0.028)	(0.082)	(0.035)	(0.075)	

Another possibility for observing Swissness is that Swiss learn from experience in a different way than Non-Swiss. To test this conjecture we evaluate the regional differences in two subsamples defined according to the average investment experience in the whole sample. Table 7 reports the estimated regional differences in the emotional competence and in the investment knowledge of individuals with an above-the-average investment experience and individuals with a below-the-average investment experience. The degree of Swissness is similar in both subsamples. This observation indicates that the Swissness is unlikely to be driven by regional differences in the ability to learn from experience.

Table 7: Regional differences depending on the investment experience

The table reports differences in predicted probabilities of regional variables after ordered logit regressions with controls. Robust standard errors are reported in parenthesis. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	subsample: below-average-investment experience					subsample: above-average-investment experience				
	p(0)	p(1)	p(2)	p(3)	p(4)	p(0)	p(1)	p(2)	p(3)	p(4)
					Emotional competence					
SwissG-G	0.039*	0.042*	-0.012	-0.048*	-0.022	0.038*	0.058*	0.002	-0.071*	-0.028
	(0.018)	(0.02)	(0.006)	(0.022)	(0.011)	(0.016)	(0.026)	(0.006)	(0.031)	(0.013)
SwissF-F	0.081***	0.118***	0.017	-0.132***	-0.085***	0.051**	0.112***	0.078***	-0.134***	-0.106***
	(0.022)	(0.026)	(0.013)	(0.029)	(0.019)	(0.019)	(0.034)	(0.023)	(0.041)	(0.031)
SwissI-I	0.073**	0.115***	0.027	-0.127***	-0.088***	0.033	0.074	0.049**	-0.09	-0.066**
	(0.03)	(0.037)	(0.018)	(0.041)	(0.029)	(0.018)	(0.035)	(0.017)	(0.043)	(0.025)
SwissF-SiwssG	-0.01	-0.009	0.004	0.011	0.004	-0.031	-0.046	0.000	0.055	0.021
	(0.024)	(0.023)	(0.009)	(0.026)	(0.011)	(0.02)	(0.032)	(0.006)	(0.039)	(0.016)
SwissI-SwissG	-0.022	-0.022	0.008	0.025	0.011	-0.041	-0.064	-0.004	0.077	0.031
	(0.03)	(0.032)	(0.01)	(0.037)	(0.016)	(0.021)	(0.036)	(0.011)	(0.044)	(0.021)
SwissI-SwissF	-0.012	-0.012	0.004	0.014	0.006	-0.01	-0.018	-0.004	0.022	0.01
	(0.035)	(0.037)	(0.011)	(0.041)	(0.019)	(0.024)	(0.044)	(0.012)	(0.054)	(0.025)
					Investment knowledge					
SwissG-G	0.016**	0.081**	-0.018	-0.079**		0.06***	0.101***	-0.083***	-0.079***	
	(0.006)	(0.028)	(0.009)	(0.029)		(0.017)	(0.03)	(0.023)	(0.025)	
SwissF-F	0.019**	0.118***	0.033	-0.171***		0.073***	0.166***	-0.058	-0.181***	
	(0.007)	(0.034)	(0.017)	(0.043)		(0.023)	(0.04)	(0.033)	(0.044)	
SwissI-I	0.004	0.028	0.012	-0.045		0.022	0.053	-0.021	-0.054	
	(0.007)	(0.044)	(0.017)	(0.067)		(0.021)	(0.045)	(0.025)	(0.041)	
SwissF-SwissG	-0.008	-0.038	0.014	0.033		-0.019	-0.026	0.028	0.017	
	(0.007)	(0.035)	(0.011)	(0.031)		(0.024)	(0.034)	(0.035)	(0.023)	
SwissI-SwissG	-0.019**	-0.102**	0.015	0.107		-0.051*	-0.081	0.072*	0.06	
	(0.008)	(0.042)	(0.013)	(0.055)		(0.023)	(0.044)	(0.031)	(0.037)	
SwissI-SwissF	-0.011	-0.064	0.001	0.074		-0.032	-0.056	0.044	0.043	
	(0.008)	(0.048)	(0.013)	(0.06)		(0.029)	(0.052)	(0.04)	(0.042)	

The results on the drivers of the overall investment competence are reported in Table 8. The results suggest that the degree of Swissness increases with the stated importance of advisor's opinion and it decreases with the investment experience. The Swissness is strongest in the subsample of individuals with below-the-average investment experience and in the subsample of individuals who consider the advisor's opinion as very important. It seems that Swiss are not better in learning from experience but they are better in learning from advisors than their neighbors abroad.

Table 8: Regional differences in the overall investment competence depending on the investment experience and the advisor's importance

The table reports differences in predicted number of investment mistakes of regional variables after robust regressions with controls. Robust standard errors are reported in parenthesis. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Investment competence (number of mistakes)				
	subsample: below-average investment experience	subsample: above-average investment experience	subsample: importance of advisor's opinion (low)	subsample: importance of advisor's opinion (moderate)	subsample: importance of advisor's opinion (high)
SwissG-G	-0.23*	-0.29**	0.082	-0.306**	-0.404**
	(0.106)	(0.119)	(0.166)	(0.113)	(0.16)
SwissF-F	-0.608***	-0.599***	-0.797**	-0.571***	-0.445*
	(0.139)	(0.176)	(0.294)	(0.15)	(0.194)
SwissI-I	-0.587**	-0.384	-0.093	-0.372	-0.785***
	(0.205)	(0.181)	(0.35)	(0.197)	(0.224)
SwissF-SwissG	0.062	0.222	-0.246	0.24	0.047
	(0.127)	(0.15)	(0.258)	(0.131)	(0.178)
SwissI-SwissG	0.128	0.311	0.502	0.344	-0.126
	(0.179)	(0.177)	(0.303)	(0.187)	(0.216)
SwissI-SwissF	0.066	0.088	0.747	0.104	-0.173
	(0.201)	(0.213)	(0.362)	(0.211)	(0.251)

A disadvantage of a measure of investment competence based on the number of incorrectly answered questions is that the latter are weighted equally. However, there are considerable differences in the percentage of respondents answering the questions in a suboptimal way, as Table 1 shows. Since these differences may reflect difficulties in correctly understanding the question rather than lack of competence, we use different weights for each question as an alternative. The procedure is very similar to the weighting method PRIDIT that has been also used by Behrman et al. (2012) to create more robust financial literacy scores.

To decide the weights of each question, we refer to the percentage of respondents answering the question in a biased way. Mistakes in answering questions with a higher error rate ("difficult" questions) receive a lower weight than mistakes in answering questions that most respondents answered correctly ("easy" questions). For example, the first question can be considered as "difficult" as 82% of all respondents answer it in a suboptimal way. Mistakes in answering this question receive a weight of 0.18. In contrast, mistakes in answering the question on financial planning receive a weight of 0.82 as only 12% of all respondents answer this question in a suboptimal way. For the assessment of the investment competence, the weighting mechanism gives a credit for avoiding mistakes in "difficult" questions and applies a penalty for suboptimal answers in "easy" questions. The weights are multiplied with -1 to receive a scale that increases with the competence.

An examination of the summary statistics of the weighted scale as reported in Table B-2 in the appendix confirms our previous observations. The regression analysis with the weighted scale reported in Table B-3 in the appendix show that our qualitative results remain robust, i.e. we observe Swissness in the emotional competence and partial Swissness in the investment knowledge. The Swissness effect in the overall investment competence is even stronger than in the basic case with an unweighted scale. The impact of the control variables on the investment competence remains robust as well.

4 Discussion

The results of our analysis suggest that although language may be closer to the individual self than the country of residence, there are greater similarities in the decision behavior of Swiss speaking different languages than between Swiss and their linguistically closest neighbors abroad. These similarities hold also for the ability to avoid emotionally driven mistakes and to some extend also for the ability to avoid mistakes due to the lack of investment knowledge. So what are the potential drivers of this kind of Swissness?

Our analysis reveals that the Swissness effect depends on the client-advisor relationship. We observe that the Swissness in the emotional competence increases with the reliance on the advisor's opinion. In general, a stronger reliance on the advisor's opinion reduces the ability to avoid emotional reactions to gains and losses. This can occur if the individuals relying strongly on advisors delegate decisions completely so that they might miss opportunities to learn how to behave optimally after gains and losses. Our results show that Swiss in all language regions are less likely to miss such learning opportunities than their neighbors abroad. It seems that there are differences in the client-advisor relationship that help Swiss to develop a better emotional competence. These differences affect also the transmission of investment knowledge. A stronger reliance on an advisor does not necessary increases investment knowledge. However, we observe Swissness in the investment knowledge of individuals who considerer advisor's opinion as moderately important and no Swissness in the other two sub-samples. This suggests that Swiss make a better use of

advisors when learning about asset classes and investing than their neighbors abroad. The regional differences in the client-advisor relationship are probably culturally motivated.

The political system of direct democracy in Switzerland could provide an alternative explanation for the observed Swissness. Feld & Kirchgassner (2000) suggest that the opportunity to decide for themselves on political issues provides incentives to collect more information and engage in dialogue with other. Political discourses in Switzerland are not restricted to intellectual circles. The Swiss attitude of information collection could have an impact on the quality of their investment decisions. Kuo et al. (2013) find that if the investors are willing to learn about firms in which they invest, they become more rational about their investment decisions. Hence, if Swiss as members of a direct democracy demand in general more information when making investment decisions, they might show a better investment competence by avoiding certain investment mistakes.

Regarding the question who is in most need of help, we find that education improves investment knowledge, which is in line with the results of Brown & Graf (2013) who study financial literacy of Swiss. However, we also find that education does not help decision-makers to avoid emotionally motivated mistakes. Hence, our results suggest that education can help investors to define an optimal asset allocation, but it cannot help them to deal with emotional risks occurring during the investment. It is also unlikely that people learn to deal with these risks. Hence, educational measures should approach not only the financial literacy of inexperience investors but also their awareness of the risks associated with emotional decisions. Regarding the target audience, our results suggest that younger, female individuals with lower income have the strongest learning potential. It is worth to consider that households with lower income are less flexible to learn from their mistakes, as they cannot afford making them.

Our results have also implications for regulators. It the goal is investors' protection, then regulators should not advice using clients' investment experience as a proxy for competence. Our results suggest that experienced investors are more likely to understand the investments risks, but they are also less prepared to face the emotional risks of investing. Empirical results of Koestner et al. (2012) confirm this observation. Decision-makers appear to have difficulties understanding the nature and the costs of emotionally driven mistakes such as the disposition effect so that they do not learn over time. Hence, allowing experienced investors to take greater risks increases the risks for emotional reactions with a negative impact on the financial performance.

5 Conclusion

In this study, we analyze whether there is Swissness in the investment behavior and competence. We define investment competence as an ability to avoid investment mistakes. This ability depends on the investment knowledge and on the ability to avoid emotional reactions after gains and losses. We find that after controlling for characteristics with a potential impact on the investment competence, Swiss appear to share some common traits that make their decision behavior distinguishable to nearby foreigners speaking the same language. In particular, we find that Swiss in all language regions are significantly less likely to make emotionally driven investment mistakes than their linguistically closest neighbors abroad, while the differences in the financial knowledge are significant only for German- and the French-speaking Swiss. We conclude that there is Swissness in the emotional investment competence and partial Swissness in the investment knowledge. The effect can be partially explained by regional differences in the client-advisor

relationship. While individuals relying on advisors are usually less prepared to respond optimally on previous gains and losses, we find that Swiss are less affected and as a consequence better prepared to deal with emotions associated with previous gains and losses.

Besides of the regional differences in the investment competence, we find that investment experience can be a reliable proxy for investment knowledge. More experienced investors are better in understanding the financial risks, but they are also less prepared to bear the emotional risks of investing. Similarly, education helps to improve the investment knowledge but it has limited power in helping investors to deal with emotions when investing. Hence, measures aiming to protect investors cannot rely that education and investment experience help investors to become better investors as successful investing depends not only on knowledge but also on the ability to deal with emotions.

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6 Appendix

A. Variable specifications

Financial income refers to the net disposable income in the household. We use the following equivalents:

- <=20’000 Euro and <= 50’000 Swiss franks
- 20’000-50’000 Euro and 50’000-100’000 Swiss franks
- 50’000-80’000 Euro and 100’000-150’000 Swiss franks
- >=80’000 Euro and 150’000 Swiss franks

Financial wealth refers to the net disposable wealth (without real estate) of the household (e.g. cash, financial assets such as equities, bonds, funds, and pension savings such as 3a saving accounts used in Switzerland). We use the following equivalents:

- <=30’000 Euro and <= 100’000 Swiss franks
- 30’000-70’000 Euro and 100’000-200’000 Swiss franks
- 70’000-100’000 Euro and 200’000-300’000 Swiss franks
- >=100’000 Euro and 300’000 Swiss franks

B. Further tests

Table B-1: Correlations between questions

The table shows the tetrachoric correlations between the evaluated answers of the investment competence questions that are significant different from zero at the 10% level.

	risk taking after losses	behaviour after losses	behaviour after gains	continue investing	financial planning	random walk trading	perf. drivers	past rewards	past risk
risk taking after losses	1								
behaviour after losses	0.2739	1							
behaviour after gains	0.1363	0.4757	1						
cont. investing	0.1484	0.2057	0.208	1					
financial planning					1				
random walk trading			0.1487			1			
performance drivers							1		
past rewards		0.1375	0.1528	0.0923		0.1111	0.1354	1	
past risk		-0.1123	-0.1142	-0.1109	0.1084	-0.1471		-0.3043	1
portfolio size	0.0723	0.1057	0.1577	0.1045			0.0809	0.2534	

Table B-2: Summary statistics of weighted investment competence scale

	Emotional competence				Investment knowledge			
	Mean	SD	Min	Max	Mean	SD	Min	Max
SwissG	-0.710	0.493	-1.940	0.000	-0.452	0.336	-1.121	0.000
SwissF	-0.767	0.531	-1.940	0.000	-0.487	0.334	-1.121	0.000
SwissI	-0.800	0.462	-1.940	0.000	-0.523	0.342	-1.121	0.000
G	-0.837	0.539	-1.940	0.000	-0.573	0.358	-1.121	0.000
F	-1.060	0.571	-1.940	0.000	-0.695	0.371	-1.121	0.000
I	-1.063	0.521	-1.940	0.000	-0.561	0.344	-1.121	0.000

Table B-3: Differences in the investment competence based on a weighted scale

The table reports regional differences in the estimated investment competence based on a weighted scale as well as marginal effects of control variables after robust regressions The base categories are: low importance of the own advisor's opinion, age 25-30, male, no higher education, no real estate ownership, income >80 000 Euro, financial wealth >100'000 Euro, team member (executive position). Robust standard errors are reported in parenthesis. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Emotional competence	Investment knowledge	Overall investment competence
SwissG-G	0.105**	0.092***	0.185***
	(0.038)	(0.027)	(0.046)
SwissF-F	0.28***	0.231***	0.492***
	(0.053)	(0.038)	(0.064)
SwissI-I	0.212***	0.027	0.238***
	(0.065)	(0.046)	(0.079)
SwissF-SwissG	-0.053	-0.013	-0.031
	(0.047)	(0.033)	(0.057)
SwissI-SwissG	-0.090	-0.077	-0.150
	(0.062)	(0.043)	(0.074)
SwissI-SwissF	-0.037	-0.063	-0.119
	(0.071)	(0.05)	(0.086)
age 31-40	0.039	-0.009	0.023
	(0.043)	(0.031)	(0.052)
age 41-50	0.101**	0.037	0.139***
	(0.044)	(0.032)	(0.053)
age 51-60	0.160***	0.029	0.177***
	(0.045)	(0.032)	(0.055)
age 61-70	0.172***	0.013	0.178***
	(0.055)	(0.039)	(0.066)
female	-0.055**	-0.040**	-0.091***
	(0.027)	(0.019)	(0.032)
household size	-0.001	-0.004	-0.008
	(0.012)	(0.008)	(0.014)
higher education	0.018	0.053***	0.067**
	(0.027)	(0.020)	(0.033)
investment experience	-0.028***	0.019***	-0.005
	(0.009)	(0.006)	(0.011)
importance advisor (strong)	-0.113***	0.033	-0.068
	(0.038)	(0.027)	(0.045)
importance advisor (medium)	-0.099***	0.014	-0.085**
	(0.034)	(0.024)	(0.040)
real estate owner	-0.011	-0.008	-0.021
	(0.029)	(0.020)	(0.034)
income: no statement	-0.155**	-0.053	-0.225**
	(0.075)	(0.054)	(0.090)
income <20,000 Euro	-0.149**	-0.088**	-0.259***
	(0.059)	(0.042)	(0.070)
income 20,000-50,000 Euro	-0.126***	-0.063*	-0.190***
	(0.046)	(0.033)	(0.055)
income 50,000-80,000 Euro	-0.130***	-0.031	-0.172***
	(0.047)	(0.034)	(0.056)
wealth: no statement	0.120*	-0.060	0.102
	(0.067)	(0.048)	(0.080)
wealth <30,000 Euro	0.082*	-0.053	0.040
	(0.047)	(0.034)	(0.057)
wealth 30,000-70,000 Euro	-0.032	-0.017	-0.036
	(0.050)	(0.036)	(0.060)
wealth 70,000-100,000 Euro	-0.051	0.002	-0.030
	(0.063)	(0.045)	(0.076)
trainee	-0.060	-0.070	-0.174
	(0.120)	(0.088)	(0.147)
company manager (leading position)	0.207**	-0.025	0.158
	(0.088)	(0.063)	(0.106)
team manager (leading position)	-0.003	0.009	-0.010
	(0.045)	(0.032)	(0.054)
assistant	-0.100**	0.010	-0.079
	(0.050)	(0.036)	(0.060)
job-seeking	0.001	0.013	0.022
	(0.061)	(0.043)	(0.073)
self-employment	-0.086*	0.016	-0.076
	(0.044)	(0.032)	(0.053)
other professional activity	0.022	0.033	0.061
	(0.038)	(0.027)	(0.045)
constant	-0.612***	-0.526***	-1.202***
	(0.091)	(0.065)	(0.109)
N	1917	1911	1897